

Claims

1. A multilayer security element having a metal layer into which are introduced, by a laser beam, identifiers in the form of patterns, letters, numbers and/or images,
5 **characterized in that** the metal layer is disposed between two translucent coating layers, causing the identifiers in the metal layer to display a watermark effect in which they appear, when viewed in transmitted light, as a positive image, and when viewed in reflected light, as a negative image.
- 10 2. The security element according to claim 1, **characterized in that** the transmittance of the translucent coating layers in the visible spectral range is less than 10%, preferably less than 5%.
- 15 3. The security element according to claim 1 or 2, **characterized in that** the translucent coating layers are colored, especially appear white or pastel-colored in reflected light.
- 20 4. The security element according to at least one of claims 1 to 3, **characterized in that** the introduction of the identifiers occurs through material ablation in the metal layer.
5. The security element according to at least one of claims 1 to 4, **characterized in that** the introduction of the identifiers occurs through a local transformation of the metal into a transparent or translucent modification.
- 25 6. The security element according to at least one of claims 1 to 5, **characterized in that** the translucent coating layers exhibit no appreciable absorption at the wavelength of the laser radiation used for labeling.

7. The security element according to at least one of claims 1 to 6, **characterized in that** the identifiers comprise personal data, such as a signature, a birth date, a portrait or the like.
- 5 8. The security element according to at least one of claims 1 to 7, **characterized in that** the identifiers comprise data relating to the data carrier, such as a serial number, a validity period or the like.
9. The security element according to at least one of claims 1 to 8, **characterized in**
10 **that** the identifiers are present in screened form.
10. The security element according to at least one of claims 1 to 9, **characterized in that** the metal layer is vapor deposited or imprinted on one of the translucent coating layers.
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11. The security element according to at least one of claims 1 to 10, **characterized in that** the metal layer is vapor deposited or imprinted on a transparent intermediate layer disposed between the translucent coating layers.
- 20 12. The security element according to at least one of claims 1 to 11, **characterized in that** one or both of the translucent coating layers is provided with a protective layer that is transparent at least in the area of the identifiers.
13. A data carrier, especially a value document, such as a banknote, identification
25 card or the like, having a security element according to one of claims 1 to 12.
14. The data carrier according to claim 13, **characterized in that** the security element is embedded in the interior of the data carrier or applied to the surface of the data carrier.

15. The data carrier according to claim 13 or 14, **characterized in that** the data carrier is provided with one or more further security features, especially with luminescent, magnetic or electrical substances, or with optically variable structures, such as
- 5 holographic structures.
16. A method for manufacturing a security element according to at least one of claims 1 to 12, in which
- 10 - a metal layer is combined with two translucent coating layers, such that it lies between the two coating layers, and
- subsequently, the series of layers is impinged on with a laser beam to introduce into the metal layer identifiers in the form of patterns, letters, numbers and/or
- 15 images.
17. The method according to claim 16, **characterized in that** the identifiers are introduced with pulsed laser radiation, especially in the infrared spectral range.
- 20 18. The method according to claim 16 or 17, **characterized in that** the wavelength of the laser radiation and the material of the translucent coating layers are coordinated with each other in such a way that the laser radiation is strongly absorbed by the metal layer and substantially not absorbed by the translucent coating layers.